

# **FORMER NEBRASKA ORDNANCE PLANT**

## **RESTORATION ADVISORY BOARD**

**October 26, 2006**

# **Former Nebraska Ordnance Plant Restoration Advisory Board Meeting October 26, 2006**

<b>Introductions &amp; Administrative Items</b>	<b>7:00-7:10</b>
<b>Agenda Review</b>	<b>7:10-7:15</b>
<b>Activities Since Last RAB Meeting</b>	<b>7:15-7:30</b>
<b>Groundwater Monitoring Program</b>	<b>7:30-8:00</b>
<b>Expanded Monitoring Well Network</b>	<b>8:00-8:15</b>
<b>Response Action Process</b>	<b>8:15-8:45</b>
<b>Next RAB Meeting, Final Remarks</b>	<b>8:45-9:00</b>

# **Introductions**

- **Community Co-Chair – Melissa Konecky**
- **Army Co-Chair – Garth Anderson**
- **Restoration Advisory Board (RAB)  
Members**

# Introductions – Community RAB Members

## ***ACTIVE MEMBERS***

**Melissa Konecky (RAB Co-Chair)**

**John Wageman**

**Paul Randazzo**

# **Introductions – Agency RAB Members**

**Lincoln Department of Water Resources**

**Lincoln Water System**

**Lower Platte North Natural Resource District, Larry Angle**

**Nebraska Department of Environmental Quality**

**Nebraska Health and Human Services System**

**Nebraska National Guard**

**Saunders County**

**University of Nebraska – Lincoln, Agricultural Research and Development Center**

**University of Nebraska – Lincoln, Environmental Health and Safety**

**University of Nebraska, Office of General Counsel**

**US Army Corps of Engineers, Garth Anderson (RAB Co-Chair)**

**US Army Reserve**

**US Environmental Protection Agency, Region 7, Scott Marquess**

# **Administrative Items**

## **Meeting Guidelines**

- RAB and Public participation**
- Honor time limits (Start on Time/End on Time)**
- Stick to the agenda**
- One question at a time**
- Respect others**
- No personal attacks**
- Ensure equal participation**

# **Administrative Items**

## **Meetings are being recorded**

- Cameras are being used to videotape this meeting**
- Transcriptionist is present to record this meeting**
- When you ask a question – state your name loudly and clearly for the transcriptionist to hear you**
- One question at a time**

# **Administrative Items**

## **Mead Project Mailing List**

- In order to better share information with the community, we update our mailing list**
- If you would like to receive site information from us, please use include your name and address on the sign in sheet**
- This information will not be shared with anyone and will only be used to mail information to you**



# **Administrative Items**

## **Mead Project Web Site**

- <http://www.nwk.usace.army.mil/projects/mead/projectindex.html>**
- Email list. By request, we will send email notifications when new information is posted on the web site. Please include on sign in sheet**

# **AGENDA**

**Activities Since Last RAB Meeting**

**Groundwater Monitoring Program**

**Expanded Monitoring Well Network**

**Response Action Process**

**Next RAB Meeting, Final Remarks**

# **Status Update**

## **Activities Since last RAB Meeting**

- 1. Groundwater sampling**
- 2. Approval of expanded monitoring network, mobilization of drill crews**
- 3. Continued one-year evaluation of Load Line 1 extraction and treatment**
- 4. Continued resolution of issues on Containment Evaluation Work Plan**
- 5. Completed design for Advanced Oxidation Process pre-treatment system for EW-11**
- 6. Completed updates to GW Model – final calibration waiting for additional data from November 2006 GW level collection**

# **GROUNDWATER MONITORING PROGRAM**

**Detailed results in June 2006 Data  
Summary Report**

**(Handout or on web site:**

**[http://www.nwk.usace.army.mil/projects/mead/Sampling\\_Results/June\\_2006\\_Sampling\\_Results.pdf](http://www.nwk.usace.army.mil/projects/mead/Sampling_Results/June_2006_Sampling_Results.pdf))**

# **Status Update - GMP**

## **September 2006**

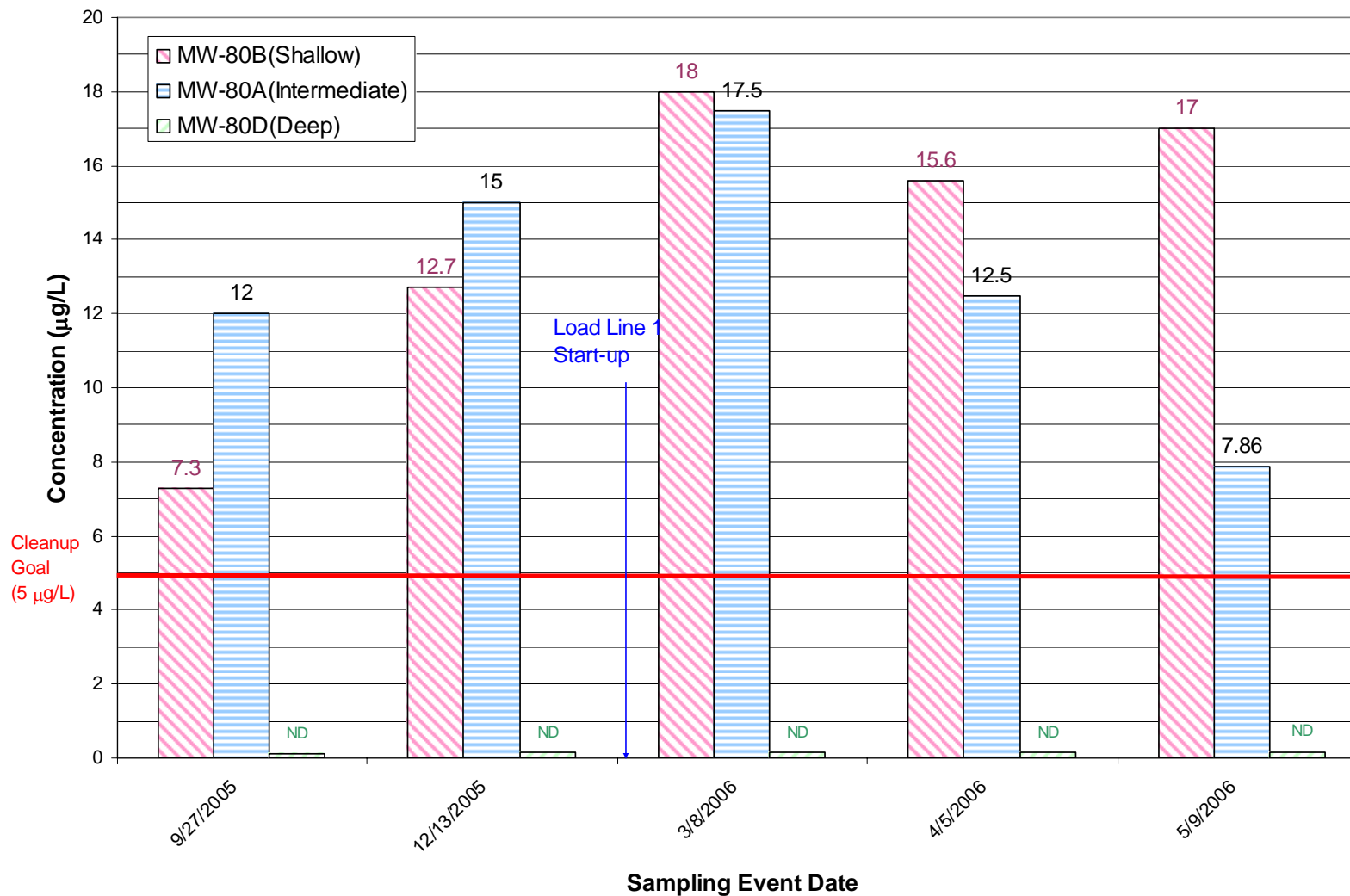
- **Sampling Completed Sept 25, 2006**
- **74 Monitoring Wells (MWs) sampled**
- **76 Residential Water Supply Wells (WSWs) sampled**
- **13 Surface Water Locations sampled**
- **Data Results Letters & Quarterly Data Report anticipated to be finalized in early Jan 2007**

# **Status Update - GMP**

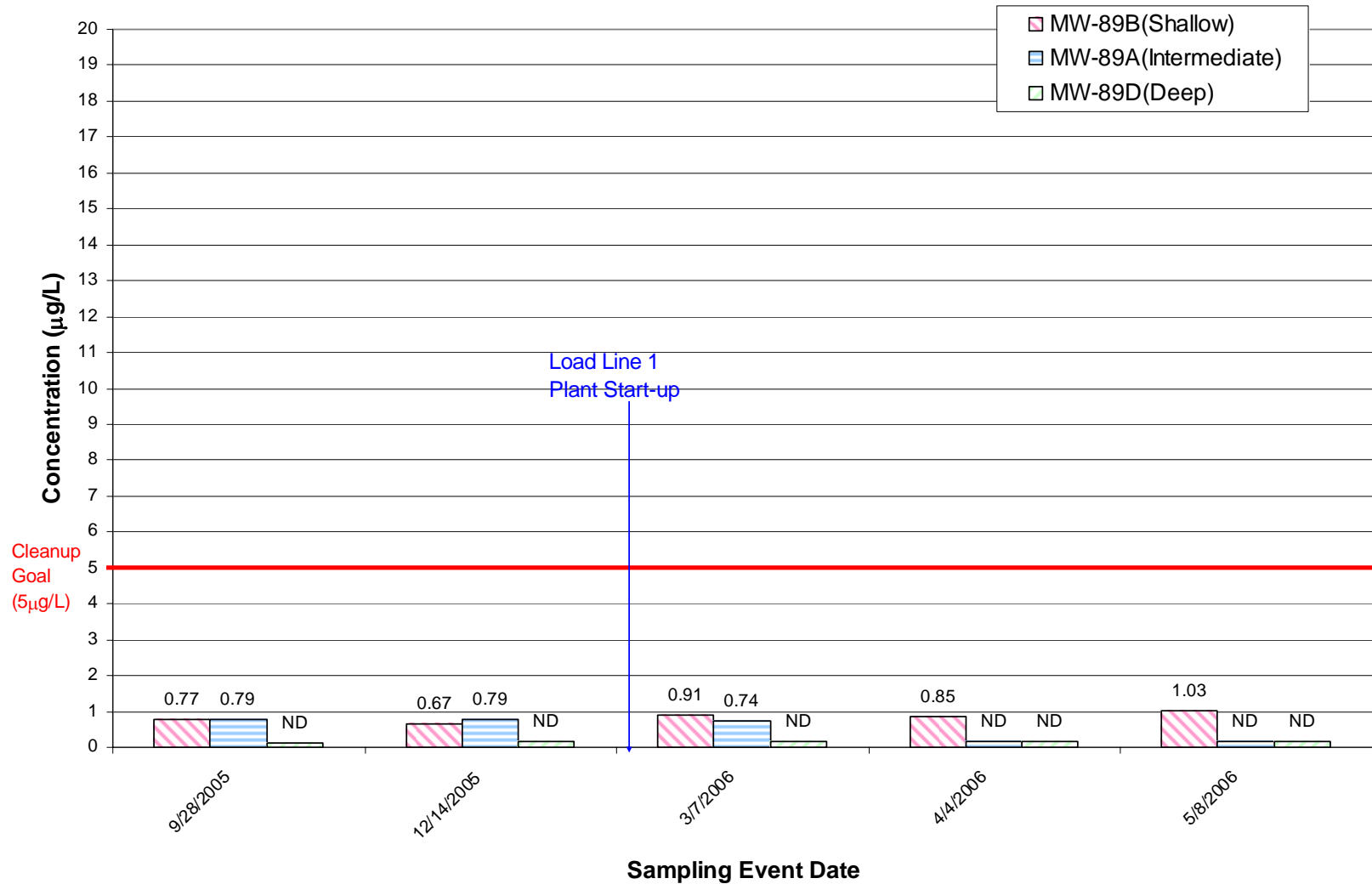
## **June 2006**

- **Data Summary Report posted on project website**
- **Summary of OU2 Record of Decision contaminants in handout**
- **Trends of surface water and monitoring well detections at select locations are included in this presentation.**

## Historical Detections of TCE for Monitoring Well Cluster 80

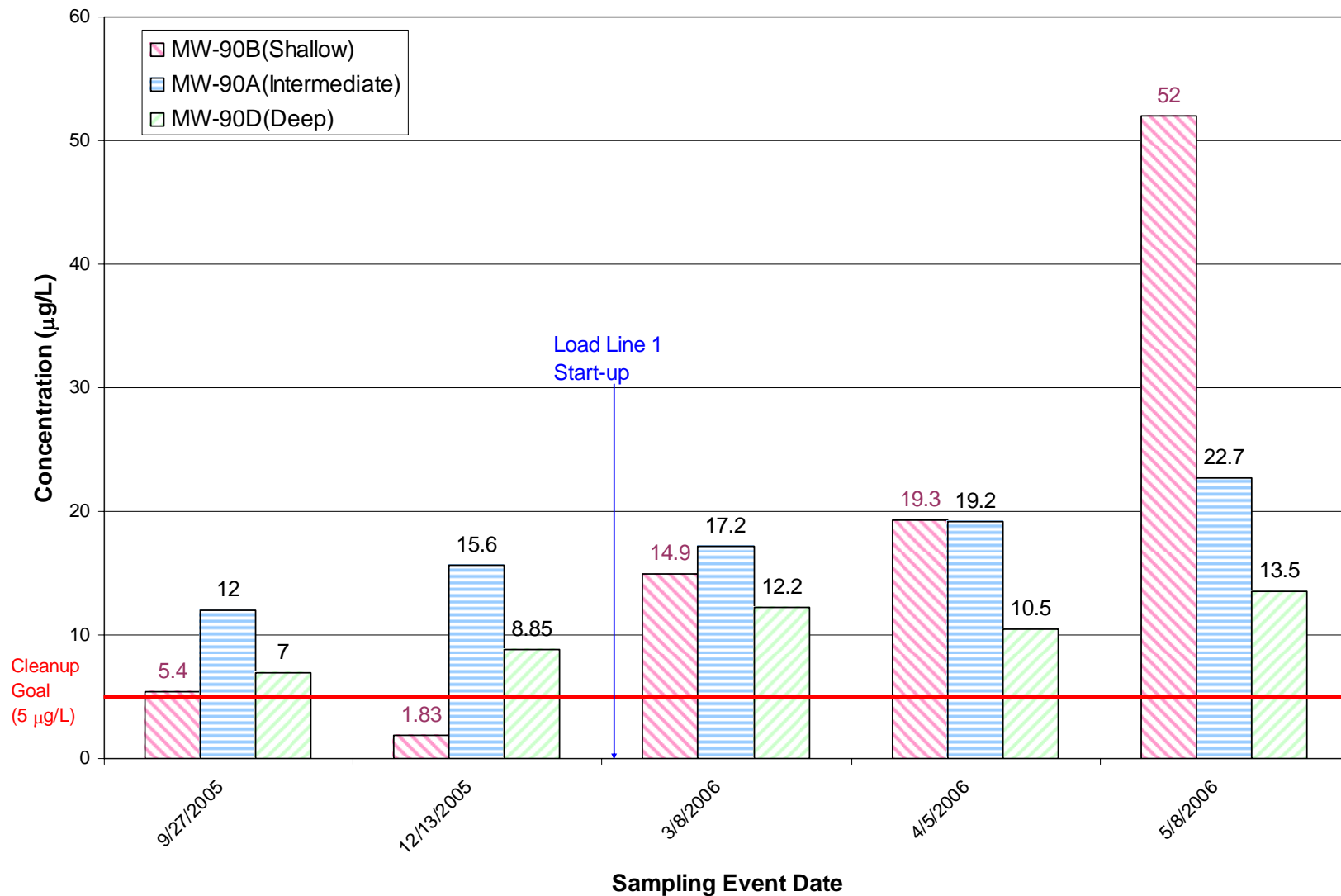


## Historical Detections of TCE for Monitoring Well Cluster 89

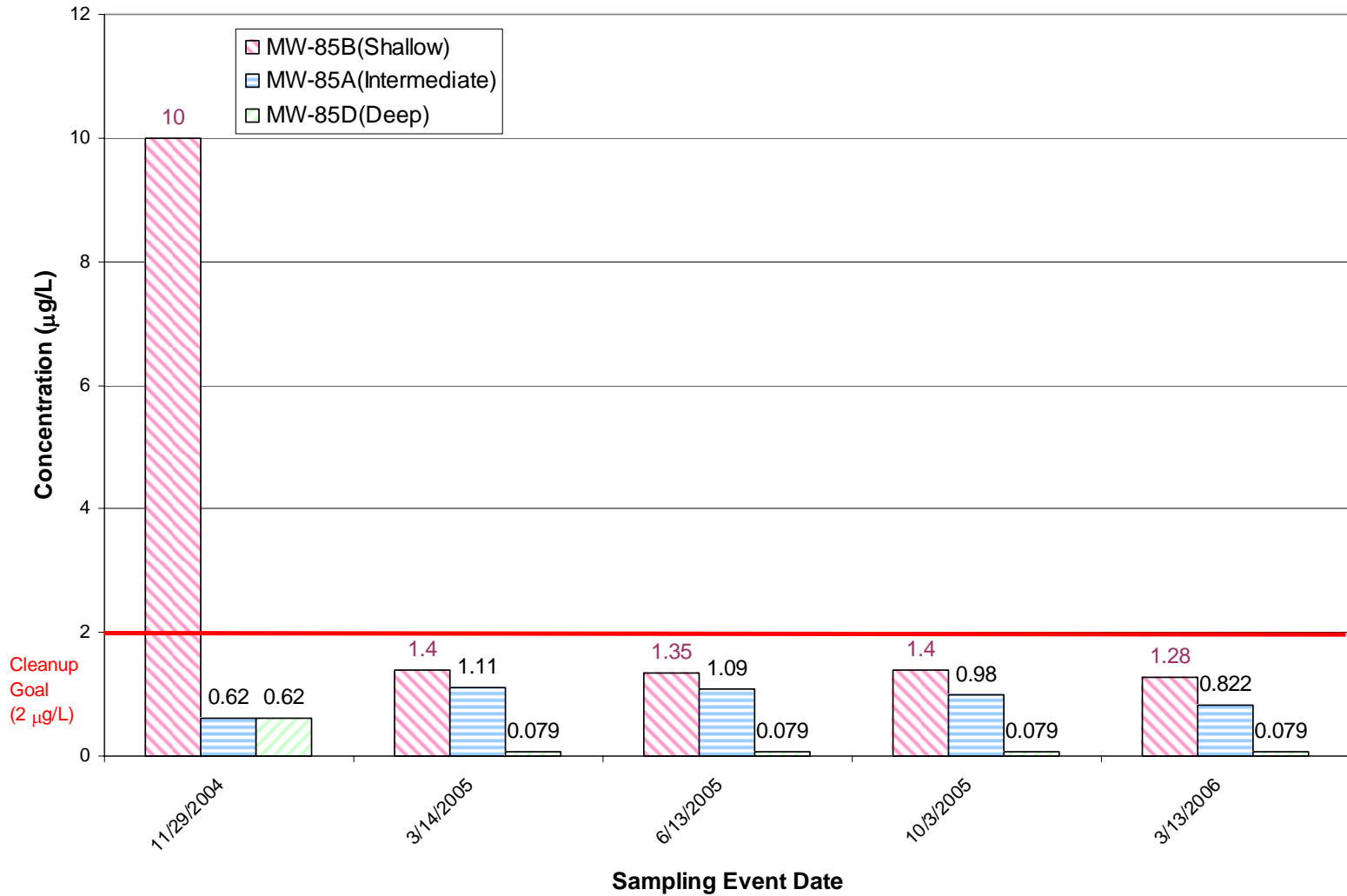




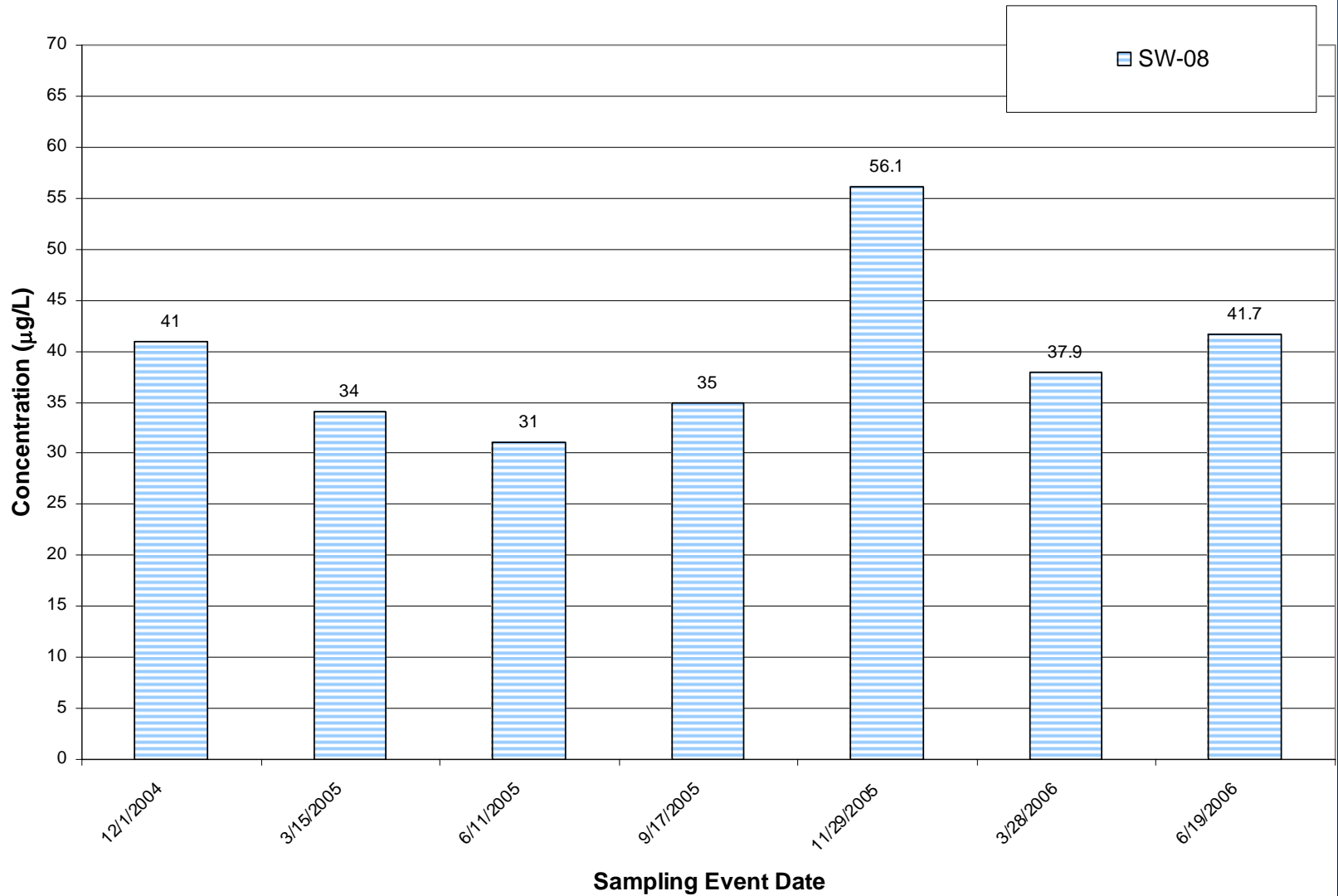
## Historical Detections of TCE for Monitoring Well Cluster 90



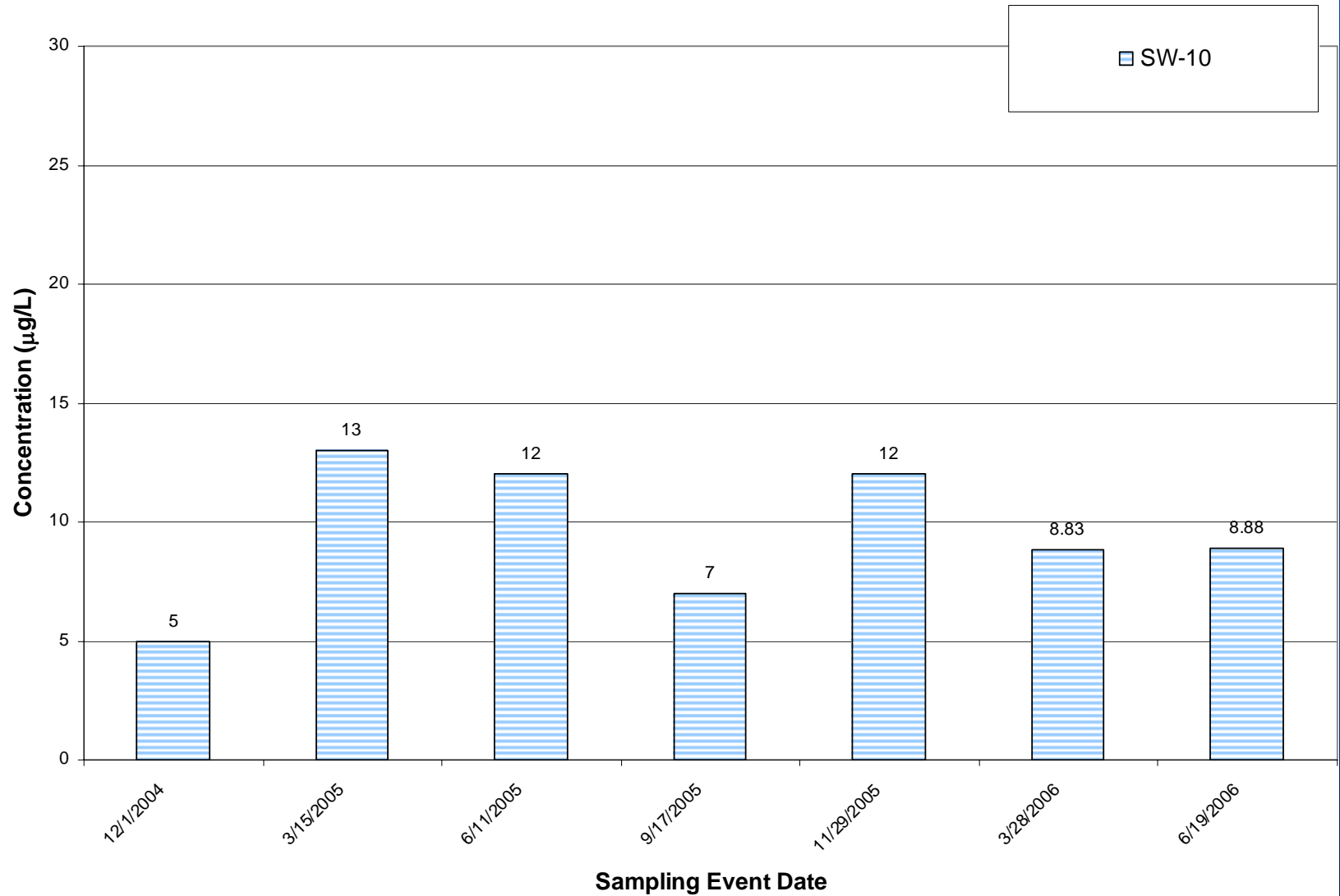
## Historical Detections of RDX for Monitoring Well Cluster 85



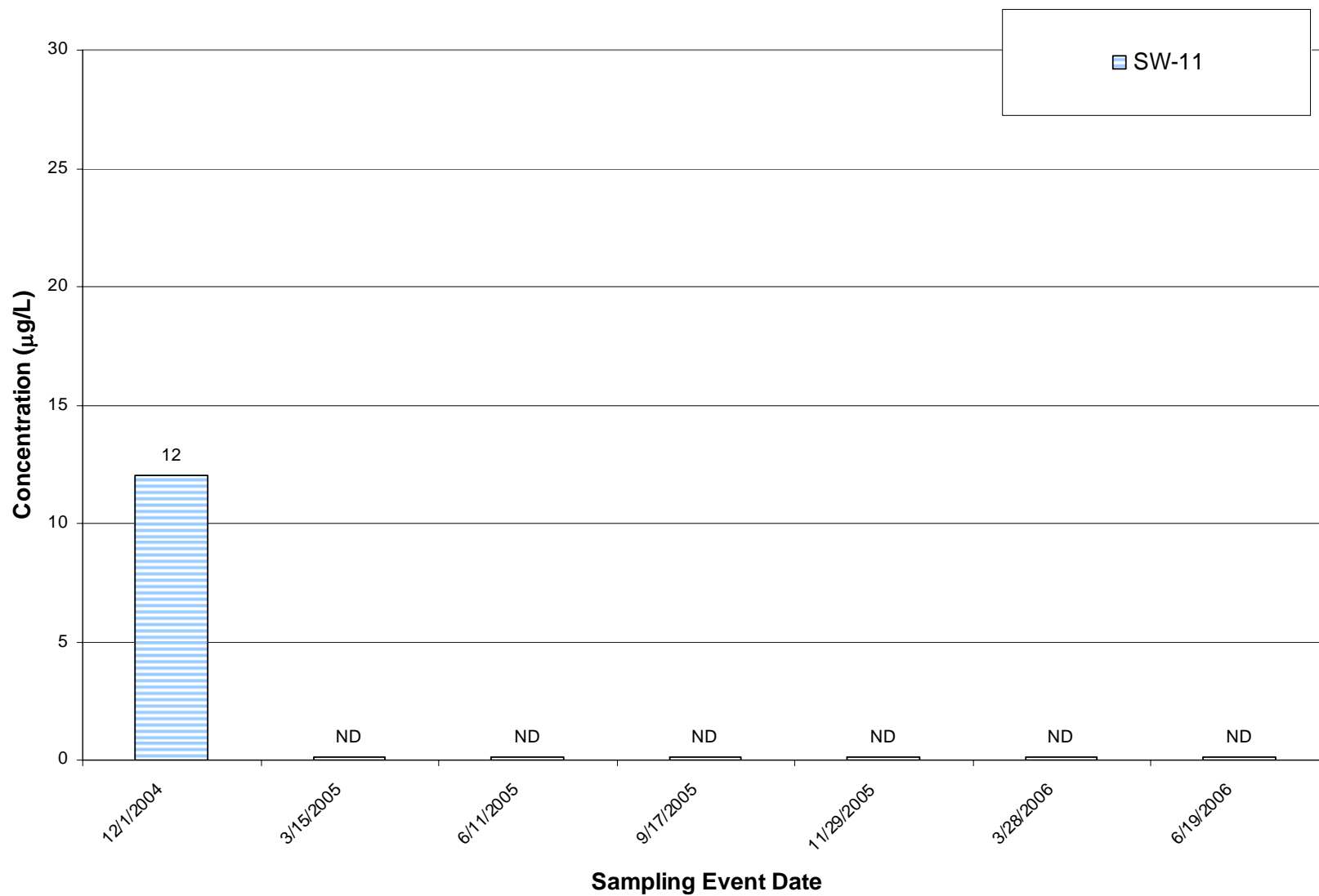
## Historical Detections of TCE for Surface Water Location SW-08



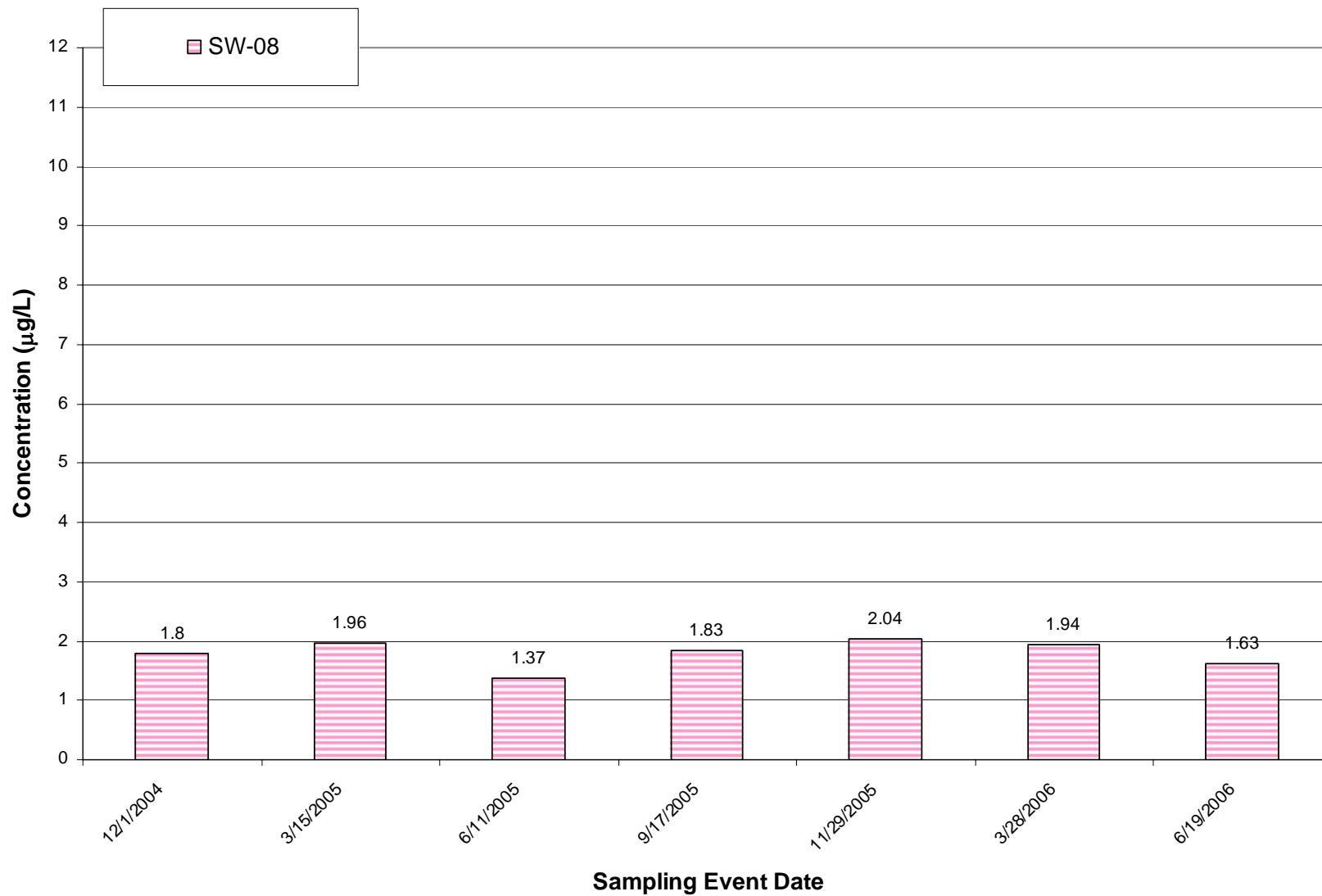
## Historical Detections of TCE for Surface Water Location SW-10



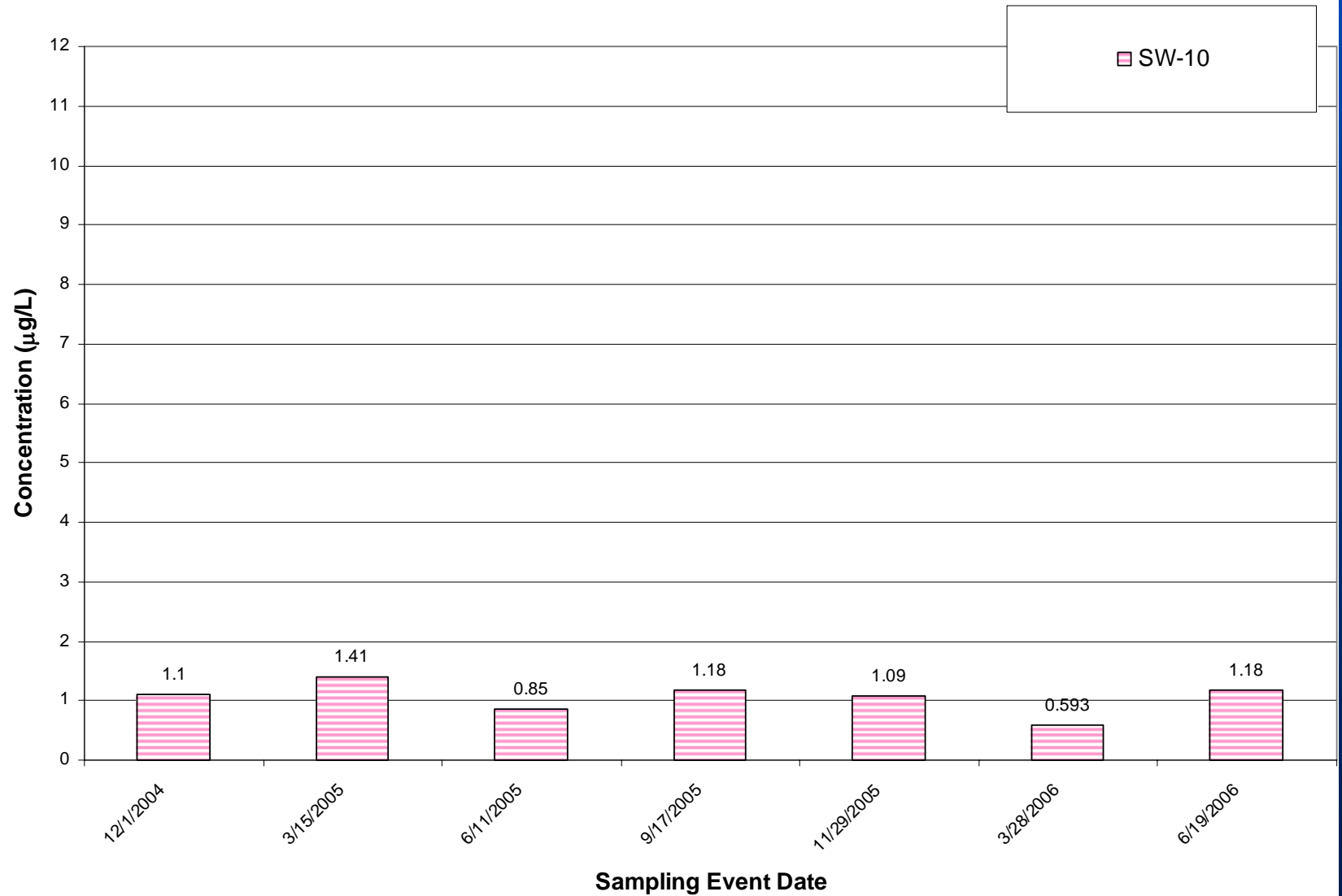
## Historical Detections of TCE for Surface Water Location SW-11



## Historical Detections of RDX for Surface Water Location SW-08



## Historical Detections of RDX for Surface Water Location SW-10



# **GMP Update**

## **GMP Documents submitted since last RAB meeting:**

- **June 2006 Quarterly Data Summary Report (Aug 2006)**
- **Draft-Final 2005 Annual Report (Sept 2006)**



# **EXPANDED MONITORING NETWORK**

**See Wall Map Handout**

# Expanded Well Network

- **New monitoring wells to be installed:**
  - **New wells will consist of:**
    - **Observation Wells (OWs)**
    - **Southern Perimeter Monitoring Wells**
    - **Eastern Perimeter Monitoring Wells**
  - **Army and regulators agree on the number and locations**
  - **Negotiating with land owners for real estate access**
  - **USACE intends to install all new wells by the end of December 2006**

# Expanded Well Network

- **New monitoring wells to be installed:**
  - **Observation Wells:**
    - Approximately 30 new OWs
    - Measure performance of the extraction wells
    - Approximately 70 OWs already exist at the site
    - New OWs will be installed around EWs that are not currently instrumented with OWs
    - Nearly all of the new OWs will be on University property

# Expanded Well Network

- **New monitoring wells to be installed:**
  - **Southern Perimeter Monitoring Wells:**
    - Approximately 36 new MWs planned
    - Monitor the containment of the plume in the southerly direction
    - Approximately 35 MWs already exist along the southern perimeter of the site
    - Quarterly sampling for first year

# Expanded Well Network

- **New monitoring wells to be installed:**
  - **Eastern Perimeter Monitoring Wells:**
    - Approximately 48 new MWs planned
    - Monitor the containment of the plume in the easterly direction
    - Approximately 30 MWs already exist along the Eastern perimeter of the site
    - Quarterly sampling for first year

# **RESPONSE ACTION PROCESS**

# CONTAINMENT EVALUATION

- **Annual Containment Evaluation:**  
**comprehensive assessment of system performance**
- **Data used:**
  - **Monitoring data, chemical and hydraulic**
  - **Operation and maintenance data**
  - **Modeling**

# **WHAT TRIGGERS A RESPONSE ACTION?**

- **Site-related contaminants above action level outside the known extent of contamination**
- **Site-related contaminants above action level outside the containment system hydraulic capture zone**



# THREE-TIER PROCESS

- TIER 1: Confirmation
- TIER 2: Investigation
- TIER 3: Action

***If WATER SUPPLY WELL exceeds action level – immediately provide alternate water supply (bottled or filtered)***

# TIME FRAMES

- Groundwater velocity, with the gradient, averages 2 feet per day across the site
- Contamination travels more slowly, approximately 1.5 feet per day
- GW does not want to travel across the gradient
- Response action planning and implementation considers GW velocity

# **TIER 1: Confirmation**

- **ROD contaminants above action level in a single well outside the known extent of contamination:**
  - Resample immediately
  - Quarterly sampling for 2 years
  - Sample adjacent wells as appropriate
- **Escalate to TIER 2 if:**
  - Continued detections above levels in MW
  - Other MWs above levels
  - TCE or RDX > 25 ppb

# TIER 1 Time Frame

- **Highly dependent on sampling results**
- **Escalation to Tier 2 could occur immediately upon reaching certain criteria**
- **Valid sampling results take 60-90 days**
- **Alternate water supply to impacted residents**
  - **Bottled water: 1-2 weeks**
  - **Install carbon filter: 1-2 months**

# **TIER 2: Investigation**

- **Upon escalation to Tier 2:**
  - **Conduct expanded GW investigation in vicinity of exceedance**
  - **Additional hydraulic evaluation**
- **Escalate to Tier 3:**
  - **Investigation shows movement that may threaten water supply wells**
  - **Indications plume may break containment**
- **Time frame: 6-9 months to plan, collect data, and evaluate results**

# **TIER 3: Action**

- **Provide alternate water to impacted residents**
- **Potential actions, in consultation with regulators:**
  - **Modify pumping of existing extraction wells (3-6 months)**
  - **Augment containment system, extraction or circulation wells (9-18 months)**
  - **Other GW remediation technologies as appropriate (indeterminate)**
  - **Modify pumping operations of area well operators that impact the performance of OU2 remedy (indeterminate)**

# Next RAB Meeting

- **Future RAB Topics**
  - What topics are of interest to the community?
  - Tell us what you would like us to present at future RAB meetings
- **Next RAB Meeting**
  - Tentative date: January 25, 2007





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